Application No. 10/728,657
Amendment dated September 2, 2008
Response to Office Action of May 2, 2008

Atty. Docket No. 4998P025
Examiner Juntima, Nittaya
TC/A.U. 2616

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A method comprising:

extracting data from a data stream formatted according to a <u>synchronous</u> [[first]] network protocol;

storing the extracted data in a buffer based on a first timing signal associated with the data stream;

reading the extracted data from the buffer based on a second timing signal associated with a <u>plesiochronous</u> ~~second~~ network protocol;

<u>generating a phase difference signal corresponding to a phase difference between the first timing signal and the second timing signal;</u>

<u>filtering the phase difference signal in a synchronous domain;</u> and

generating stuff bits for a data stream according to the ~~second~~ <u>plesiochronous</u> network protocol based on at least a non-linear function of a phase difference between the phase difference ~~first timing~~ signal and the ~~second timing signal~~ <u>rate at which stuff bits are generated</u>.

2-4.   (Canceled)

5.   (Currently Amended) The method of claim 1 [[4]] further comprising

formatting the extracted data and the stuff bits as a data stream according to the ~~second~~

plesiochronous network protocol.

6.   (Currently Amended) The method of claim 5 wherein the data stream

according to the ~~second~~ plesiochronous network protocol comprises a DS1 data stream.

7.   (Canceled)

8.   (Currently Amended) The method of claim 1 [[7]] wherein the [[first]]

synchronous network protocol comprises a synchronous optical network (SONET)

protocol.

9.   (Previously Presented) The method of claim 1 wherein the data stream

formatted according to the first network protocol comprises a VT1.5 formatted data

stream.

10.   (Previously Presented) The method of claim 9 wherein the first timing

signal comprises a clock signal for the VT1.5 formatted data stream.

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11.   (Original) The method of claim 1 wherein the first timing signal and the second timing signal have approximately the same average frequency.

12.   (Original) The method of claim 1 wherein the buffer comprises a first-in/first-out (FIFO) queue.

13.   (Currently Amended) An apparatus comprising:

a buffer to store data extracted from a data stream formatted according to a synchronous [[first]] network protocol, wherein the extracted data is stored in the buffer in response to a first timing signal associated with the data stream and the extracted data is read from the buffer in response to a second timing signal associated with a plesiochronous second network protocol;

a phase detector coupled to receive the first timing signal and the second timing signal to determine a phase difference between the first timing signal and the second timing signal and to generate a phase difference signal;

a filter coupled to sample the phase difference signal in response to the first timing signal and to generate a phase metric signal based on the sampled phase difference signal and to filter then phase metric signal in a synchronous domain; and

a stuff rate generator coupled to receive the filtered phase metric signal to generate a stuff rate signal based on the filtered phase metric signal, wherein a relationship between the phase metric signal and the stuff rate signal is non-linear.

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14.   (Original) The apparatus of claim 13 wherein the phase metric comprises an average number of data values stored in the buffer.

15.   (Currently Amended) The apparatus of claim 13 wherein the <u>synchronous</u> [[first]] network protocol comprises a synchronous optical network (SONET) protocol.

16.   (Original) The apparatus of claim 15 wherein the data stream formatted according to the first network protocol comprises a VT1.5 formatted data stream.

17.   (Canceled)

18.   (Currently Amended) The apparatus of claim 17 wherein the data stream according to the ~~second~~ <u>plesiochronous</u> network protocol comprises a DS1 data stream.

19.   (Original) The apparatus of claim 13 wherein the first timing signal and the second timing signal have approximately the same average frequency.

20.   (Currently Amended) A system comprising:

a switch fabric;

a buffer to store data extracted from a data stream formatted according to a <u>synchronous</u> [[first]] network protocol, wherein the extracted data is stored in the buffer

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in response to a first timing signal associated with the data stream and the extracted data

is read from the buffer in response to a second timing signal associated with a

plesiochronous ~~second~~ network protocol;

a phase detector coupled to receive the first timing signal and the second timing

signal to determine a phase difference between the first timing signal and the second

timing signal and to generate a phase difference signal;

a filter coupled to sample the phase difference signal in response to the first

timing signal and to generate a phase metric signal based on the sampled phase difference

signal and to filter then phase metric signal in a synchronous domain; and

a stuff rate generator coupled to receive the filtered phase metric signal to

generate a stuff rate signal based on the filtered phase metric signal, wherein a

relationship between the phase metric signal and the stuff rate signal is non-linear.

21.   (Original) The system of claim 20 wherein the phase metric comprises an

average number of data values stored in the buffer.

22.   (Currently Amended) The system of claim 20 wherein the data stream

formatted according to the [[first]] synchronous network protocol comprises a VT1.5

formatted data stream.

23.   (Currently Amended) The system of claim 20 wherein the data stream

according to the ~~second~~ plesiochronous network protocol comprises a DS1 data stream.

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24.   (Currently Amended) An apparatus comprising:

means for extracting data from a data stream formatted according to a

<u>synchronous</u> [[first]] network protocol;

means for storing the extracted data in a buffer based on a first timing signal

associated with the data stream;

means for reading the extracted data from the buffer based on a second timing

signal associated with a <u>plesiochronous</u> ~~second~~ network protocol;

<u>means for generating a phase difference signal corresponding to a phase</u>

<u>difference between the first timing signal and the second timing signal;</u>

<u>means for filtering the phase difference signal in a synchronous domain;</u> and

means for generating stuff bits for a data stream according to the ~~second~~

<u>plesiochronous</u> network protocol based on at least a non-linear function of a phase

difference between the <u>phase difference</u> ~~first timing~~ signal and the ~~second timing signal~~

<u>rate at which stuff bits are generated</u>.

25.   (Canceled)

26.   (Currently Amended) The apparatus of claim 24 further comprising

means for formatting the extracted data and the stuff bits as a data stream according to the

~~second~~ <u>plesiochronous</u> network protocol.